

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claim 1, 3-11, 13-21, and 23-30 are pending in the present patent application. Claims 1, 11, and 21 are independent. The remaining claims depend, either directly or indirectly, from claims 1, 11, and 21.

Specification

The Examiner objects to page 16 of the specification because it contains an informality. (See Office Action dated October 13, 2005 at page 2). By way of this reply, the specification has been amended to remove this informality. Specifically, the paragraph containing the informality has been deleted. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1, 3-6, 8-11, 13-16, 18-21, 23-26, and 28-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,095,454 issued to Huang (hereinafter "Huang"), in view of U.S. Patent No. 6,339,837 issued to Li (hereinafter "Li"), and in further view of U.S. Patent No. 6,637,014 issued to Casavant (hereinafter "Casavant"). For the reasons set forth below, this rejection is respectfully traversed.

Applicant respectfully asserts Casavant is non-analogous art. During the simulation of a digital circuit design, the digital circuit design is represented by a data flow graph with one or more path(s) traversing the data flow graph. These paths may have different lengths representing different computational times. The present invention is focused towards reducing the difference between the longest (“critical”) and shortest paths thereby reducing the overall simulation time of the digital circuit design. In contrast, Casavant is focused on mitigating crosstalk in an integrated circuit. Crosstalk is interference caused by electric power being coupled from one circuit into adjacent circuits. As mitigating crosstalk is not related to reducing the execution time of a cycle-based simulation or even cycle-based simulations in general, Applicant respectfully asserts one attempting to reduce simulation of a digital circuit design would not look to Casavant as a reference. Accordingly, Casavant is non-analogous art.

Independent claim 1 recites, in part, “wherein simulation further comprises reducing a difference between said critical path and a shortest path in said data flow graph.” Independent claims 11 and 21 have similar limitations. The Examiner has attempted to equate this limitation with modifying timing graph paths as disclosed in Casavant. (*See* Office Action dated October 13, 2005 at page 3). This association is improper as the paths disclosed by Casavant relate to crosstalk within an integrated circuit and thus are not the same as the paths disclosed in the present invention and recited in the claims.

During a cycle-based simulation, a digital circuit design is represented by a data flow graph with one or more path(s) traversing the data flow graph. The lengths of the paths are related to the execution time of the cycle-based simulation. It would be clear to one skilled in the art that the lengths of all paths, especially the longest (“critical”) path, should be minimized to reduce the overall time required to execute the cycle-based simulation. (*See, e.g.,* Instant

Specification at page 7, line 11 to page 8, line 11). As Casavant actually contemplates increasing the lengths of the timing graph paths (*see* Casavant at column 15, lines 44-66), it is clear the timing graph paths in Casavant are not the same as the paths recited in the claims. As discussed in the previous office action response dated June 22, 2005, Huang and Li, like Casavant, also do not teach or suggest the critical path, the shortest path, and reducing the difference between them, as recited in the claims.

Huang, Li, and Casavant, whether viewed separately or in combination, do not teach or suggest all of the limitations of independent claims 1, 11, and 21. Thus, independent claims 1, 11, and 21 are patentable over Huang, Li, and Casavant. Claims 3-6, 8-10, 13-16, 18-20, 23-26, and 28-30 depend, either directly or indirectly, from claims 1, 11, and 21 and are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 7, 17, and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Huang, in view of U.S. Patent No. 6,856,950 issued to Abts et al. (hereinafter "Abts"), and in further view of Li and Casavant. For the reasons set forth below, this rejection is respectfully requested.

As an initial matter, Applicant notes that various combinations of one or more of four references have been used in rejecting the claims of the present application. The purported reconstruction of the claimed invention by reliance on such a large number of references is not appropriate. It is abundantly clear that the Examiner, using the present application as a guide, has selected isolated features of the various relied-upon references to arrive at the limitations of the claimed invention. Use of the present application as a "road map" for selecting and combining prior art disclosures is wholly improper. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132 (Fed. Cir. 1985) (stating that "[t]he invention must be viewed not with the

blueprint drawn by the inventor, but in the state of the art that existed at the time”); *In re Fritch*, 972 F.2d 1260 (Fed. Cir. 1992) (stating that “it is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious This court has previously stated that ‘one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.’”); *In re Wesslau*, 353 F.2d 238 (C.C.P.A. 1965) (stating that “it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art”).

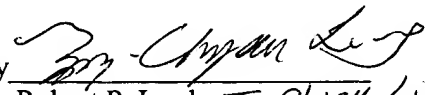
As discussed above, independent claims 1, 11, and 21 are patentable over Huang, Li, and Casavant. As discussed in the previous office action response dated June 22, 2005, independent claims 1, 11, and 21 are also patentable over Abts, Li, and Huang. Applicant respectfully asserts that Abts, Li, Huang, and Casavant, whether viewed separately or in combination, fail to teach or suggest the critical path, the shortest path, and reducing the difference between them as recited in independent claims 1, 11, and 21. Thus, independent claims 1, 11, and 21 are patentable over Abts, Li, Huang, and Casavant. Claims 7, 17, and 27 depend, either directly or indirectly, from claims 1, 11, and 27 and are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 16159/089001).

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Respectfully submitted,

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